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ABSTRACT

The most advantageous relationship between computer technology and institutional research is considered. Three potential problem areas are discussed: those associated with a central data processing center, those germane to minicomputers or terminals within the institutional research office, and those nondiscriminating types which cover both categories. Although computers generate large quantities of data, they also pose a potential threat to institutional research operations. First, the ability to produce considerable data is often followed by requests to produce even more data, and the researcher may become more a data supplier than an information supplier or data analyst. A second danger is conflicting or overlapping demands for data from the institutional research office. Finally, computers threaten institutional research by promising practitioners the esteem and gratitude of the campus community via administrative status as computer-output experts. It is suggested that the primary function in which institutional research should be involved is policy analysis. That is, the value of institutional research resides in its ability to provide meaningful analyses of institutional data on important issues, and computers only partially assist in this process. (SW)

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COMPUTER RESOURCES: ASSET OR LIABILITY FOR INSTITUTIONAL RESEARCH

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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This paper was presented at the 1982 Annual Conference of the Southern Association for Institutional Research held in Birmingham, Alabama, October 1982. It was reviewed by the SAIR Publications Committee and was judged to be of high quality and of interest to others concerned with the research in higher education. This paper has therefore been selected to be included in the ERIC collection of Conference Papers.

Gerald W. McLaughlin
President, SAIR

Computer Resources: Asset or Liability for Institutional Research

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Abstract

Colleges and universities are mirroring society in their fascination with and dependence upon computers, and technological advances in data processing are a real boon to institutional researchers. One rarely finds an institutional research office which does not covet its own or another minicomputer, more and better data processing support, and more computer-oriented staff members. Computers allow us to do more sophisticated research, to provide accurate data more quickly, to streamline routine reporting, and to enjoy some respect in campus administrative circles as "modern" managers. Yet, computers can also bring problems which must not be overlooked in our head-long rush to embrace the new technology. The purpose of this paper, though, is not to suggest that higher education should be hesitant in its approach to modern data processing opportunities; rather, the purpose is to question the proper relationship between computer technology and institutional research and to help institutional researchers understand that computer resources can be both blessing and plague. Three areas of potential problems are discussed -- those associated with a central data processing center, those germane to minicomputers or terminals withing the institutional research office, and those nondiscriminating types which cover both categories.

Computer Resources: Asset or Liability for Institutional Research

Where would institutional research be without the computer? Imagine trying to compile an induced course load matrix by hand or trying to compute a step-wise multiple regression without SPSS or SAS, and you get some idea of the answer. Let us accept as a given, then, the close relationship between automated data processing and the practice of institutional research as we know it today, and let us look at the fabric of this important relationship.

Institutional researchers enjoy a different profession today because of computers, and few of us would knowingly choose to return to the days before punched cards, terminals, and modems; at least it seems like few of us would choose that, but who knows. Nevertheless, computers have had a marked impact on the field of institutional research and the benefits are obvious. The touch of a button brings more data on more subjects than one can even begin to imagine; ever more sophisticated research advances our understanding of social phenomena and complex organizational interactions; routine reporting no longer monopolizes every making hour; and, campus institutional research offices enjoy some respect in administrative circles. Yet, the typical shop talk among institutional researchers (IR folk) rarely omits some griping about computer resources. Assuming that there is some reason for this and that the aforementioned advantages of computers do exist, are computer resources an asset or liability for institutional research?

The purpose of this paper is to explore the relationship between computer technology and institutional research and to help institutional researchers understand the subtle problems that may accompany computerization of office operations. Too often we quickly embrace the new technology without preparing ourselves for it or for those related changes in working conditions, interoffice communication, or personal relationships which come with it. Computers can ease our workload and help us find answers to knotty problems, but they also impose a burden on those who use them. The remainder of this paper discusses the ways in which computers alter the lives of institutional researchers

and bring about or intensify daily problems faced in the job. Three broad areas are used to categorize these problems: first, those associated with a central data processing computer center; second, those germane to the use of minicomputers or terminals within the office; and third, those persistent ones which plague both categories.

Before continuing, however, three points need to be raised. First, these discussions are not intended to discourage anyone from procuring automated data processing capabilities. The advantages far outweigh the disadvantages and it is far easier to live with the disadvantages than to live without the advantages. Second, problems associated with computers are rarely the sole fault of computer personnel whether they be your data processing staff, vendors, or consultants. Hence, this presentation is not intended as a criticism of computer support personnel who, often, face the same kinds of problems as institutional researchers. Third and finally the problems discussed here are not new and actually do not originate entirely with the advent of computers on campus.

Centralized Data Processing Centers

The traditional form of computer operations in colleges and universities is a central computer with programming and support staff to serve the campus. The structure of such an operation is not of interest here, and the problems which will be covered generally are not eased by having totally separate centers for academic computing and administrative data processing. Regardless of the way in which your institution handles the computer center, three problem areas are likely to arise and need to be addressed.

The first issue is basic relations with the staff of the computer center who have the ability to make you look like a star or a complete schmoe. Unreasonable demands and constant rush requests are two sure ways to find yourself in the latter category, but there is no guaranteed road to achieving star status. Simply put,

institutional researchers must get along with data processing staff or no one wins.

Second but clearly related to the first problem is the issue of setting priorities. Unless the computation center reports to you, there is no way to make sure that your job will be done when you need it. Obviously, good relations go a long way towards easing the dilemna, but there are times when institutional research priorities must come second. How one deals with this is an individual matter but one would be wise to: 1) consult with the computer staff before agreeing to a due date on a project: 2) never promise anything which you cannot deliver even if the computer center burns down or your programmer/analyst gets the flu; and 3) always build in some slack for when either of the previously mentioned events or something else does occur.

The third problem area combines the first two and touches on a multitude of others -- the institutional researcher often is in the middle between those who need the data and the computer center staff who provide the data. There are strong benefits to this type of arrangement and institutional researchers should hesitate before endorsing any organizational changes which remove them from this role, but it can cause headaches. As the link between the campus and the computer, we must tell the president that we never collected that bit of data, tell deans and vice presidents that their rush request cannot be filled for three months at the earliest, tell state legislators that athletes' grades and SAT scores cannot be released because of the Buckley Amendment, tell the System Office that their request must wait until Monday, and explain to everyone why the data (often) are late. Being in the middle also necessitates that the institutional researcher avoid two large pitfalls: using the data to get power and blaming the data processing staff.

The possession of data is power and we should not forget it at the same time that we must minimize it. In similar fashion, our tardiness in meeting someone's request often may fall in the lap of the computation center but no one wins by blaming others. Relations between institutional research and data processing can never be harmonious if we consistently excuse ourselves at their expense.

In-House Data Processing

Before proceeding, please note that it is not the purpose of this paper to compare centralized versus in-house data processing resources. This is a topic about which much has been written and upon which one's perspective may not be entirely neutral particularly if one is dissatisfied with one's current arrangement. Nevertheless, there are two potential problem areas associated with maintaining computer resources within the institutional research office.

First is the problem that campus research efforts may be fragmented by the existence of many independent computer operations. While one can hardly argue against someone's needs to have immediate access to and control of particular data, one runs into difficulties (sometimes) when institution-wide data are necessary. For the institutional research office to have its own minicomputer or "smart" terminal is not inherently bad, but it seems unlikely that all data can be kept in-house and current without seriously altering the very nature of the office. One must be aware of the problem before moving too strongly in this direction.

The second problem can be summed up in the vision of the institutional research office as a centralized computation center on a smaller scale. Even with sophisticated software, considerable programming will be necessary, and data entry must be performed somewhere. The lure of immediate access to the data without having to go through the data processing center is very appealing, but such a simplified and ideal model is not achieved without a great deal of preliminary planning and unexciting work. Primarily the concern here is not with the extra toil involved in in-house computing but is rather directed at the possible diversion of institutional research efforts away from providing information for decision-making and into data processing. Conceivably we can do both but in reality, one wonders.

Overall Problems

In weighing the assets or liabilities which computer resources bring to institutional

research, it is necessary to go beyond the more immediate problems which have been discussed so far in order to consider more fundamental issues. One might ask, for example, what the impact of the computer has been on the practice of institutional research, and one might be surprised by the answer.

One of the things done best by computers -- generating lots of data -- is also a potential threat to institutional research operations, and three reasons for this are evident. First, the ability to produce mountains of data is followed, usually, by requests to produce even more data. While it is gratifying to be called upon often and to feel that one's services are vital, one may tend to become more of a data supplier than an information supplier or data analyst. Institutional research does not exist solely to furnish numbers, but the computer has made that function one of our stronger and more prominent attributes. The danger, of course, is that the analytical capabilities of institutional research may be supplanted by our masterful talent for generating reams of printout. Careful and competent institutional researchers must guard against this tendency or their role and function within the institution may be impaired permanently.

A second danger inherent in the computer's capability to process lots of data, which was mentioned above briefly, is conflicting or overlapping demands for data from the institutional research office. The situation is not atypical in which the institutional researcher receives almost simultaneous requests for information from the system office, the Provost, two deans, another university or college, the President, the student newspaper, the campus news bureau, and four graduate students. Time management and learning to say no can be very helpful here, but there are days when all requests are legitimate and cannot be avoided. The institutional research office besieged in such a fashion finds itself, thus, much in demand but oftentimes unable to function as designed. Computer resources, in all fairness, cannot be said to have caused this dilemma, but the massive data processing abilities of computers have added to it. If your institutional research function values analysis, contemplation,

and informed consultation, then multiple demands for routine institutional data must be handled accordingly.

Third and finally computers threaten institutional research by promising practitioners the esteem and gratitude of the campus community via administrative status as computer-output experts. We become the people to call when numbers are needed, but this recognition is gained at the expense of our other roles which may be more important to the institution. In short and as one may have already guessed, the primary function in which institutional research should be involved is policy analysis, a term borrowed from Robert Fenske's presentation at the 1982 AIR Forum in Denver. Policy analysis suggests that the contribution of institutional research comes through its ability to analyze data and develop policy alternatives which are presented to institutional decision-makers; policy analysis is not setting policy. Computer resources play a vital role in the institutional researchers ability to contribute to institutional management, but they can significantly skew the direction of that contribution if not used properly.

Conclusion

To answer the question posed by the title of this paper, computer resources are definitely an asset for institutional research. Our profession would be hindered greatly by the absence of computers, and much of our contribution to institutional management hinges upon adequate computer support. Yet, the major thesis of this paper suggests that the function of institutional research can be undermined by our headlong rush to adopt the new technology. Institutional research offices which spend more time generating data than they do providing information face the possible loss of an analytical support role in institutional decision-making. The value of institutional research resides in its ability to provide meaningful analyses of institutional data on important issues, and computers only partially assist in this process.